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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,495	02/07/2002	Sridhar Kanamaluru	SAR 13821	1928

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EXAMINER
TAKAOKA, DEAN O

ART UNIT	PAPER NUMBER
2817	

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/071,495	KANAMALURU, SRIDHAR	
	Examiner	Art Unit	
	Dean O Takaoka	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6,9,10,12,13,17 and 18* is/are rejected.

7)☒ Claim(s) *3,5,7,8,11,14-16,19 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "limitations in claim 7" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim 7:

It does not appear that "a groove, lip, or ridge is formed within an interior of the waveguide".

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The applicant is required to provide a copy of the drawings with proposed drawing changes marked in red ink as required by 37 CFR 1.121(d).

Claim Objections

Claim 1 is objected to because of the following informalities: The Examiner believes the word "at" should be "a" (e.g. "[at] --a-- second substrate mounted within the waveguide and positioned...").

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirtzlin et al. (U.S. Patent No. 6,297714).

Claims 1 and 17:

Hirtzlin et al. (Fig. 2) shows a waveguide (9 comprising sections 9_1, 9_2, 9_3) having a longitudinal axis (12); first (13) and second (14) substrates mounted within the waveguide and positioned transverse to the longitudinal axis and having a first (15) and second (16) probe mounted thereon respectively where the first probe transmits signals from transmission unit (19) (abstract and col. 3, lines 56-62) and the second probe receives (abstract and col. 3, lines 52-62) electromagnetic radiation and directs it to reception unit (20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirtzlin et al. in view of Chen (U.S. Patent No. 4,598,262), prior art supplied by the Applicant.

Claims 2 and 9:

Hirtzlin et al. teaches the circular waveguide comprising a well-known grid polarizer mounted within the waveguide and positioned transverse to the longitudinal axis of the waveguide (shown as irises 35 – Fig. 5a; where any pair of adjacent irises comprise a grid; grid defined by Merriam-Webster's Collegiate Dictionary (10th edition) as grating; grating defined as "2: a partition covering or frame of parallel bars or crossbars"); and where the probes may be formed at right angles to each other on each substrate to permit orthogonal reception and transmission of orthogonally polarized waves (claim 9).

Hirtzlin et al. is silent where the waveguide comprises a first and second polarized signal and does not teach where the grid substrate has a multiplicity of metallic lines disposed in a spaced apart relation and oriented to be reflective of the first polarized signal and transmissive of the second polarized signal.

Chen (Fig. 2) shows a similar circular waveguide comprising well-known art-recognized equivalent grid substrate polarizer, each having a multiplicity of metallic lines disposed in a spaced apart relation and oriented to be reflective of the first polarized signal and transmissive of the second polarized signal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the well-known polarizer grid disclosed by Hirtzlin et al. with the well-known art-recognized equivalent grid substrate disclosed by Chen. Such a modification would have been a mere substitution of well-known art-

recognized equivalent polarizers in a waveguide thus suggesting the obviousness of the modification.

Claim 12:

Where the grid substrate is disposed one-quarter the wavelength of the first and second substrate (where Hirtzlin et al. shows the polarizer, e.g. 35, disposed λ/4 away from the substrate – col. 4, lines 45-63).

Claims 4 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirtzlin et al. in view of Suzuki et al. (U.S. Patent No. 6,043,789).

Claims 4 and 18:

Hirtzlin et al. teaches the circular waveguide comprising first and second probes each on a respective substrate but is silent where a first and second dog-channel is proximate the first and second probes respectively.

Suzuki et al. (Fig. 3) shows a similar circular waveguide comprising probes (8, 9) mounted on a substrate (2), further comprising channels (3e, 3f) proximate the probes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the probe disclosed by Hirtzlin et al. with the channeled probe disclosed by Suzuki et al. Such a modification would have the advantageous benefit of providing an escape recess to avoid contact with the probe patterns (Suzuki et al. – col. 5, lines 10-12), thus avoiding any shorting or interference of the signal with the waveguide wall thus suggesting the obviousness of the modification.

It is the position of the Examiner that the recesses of Suzuki et al. are identical or nearly identical to that of the current invention and are functionally equivalent to that of the current invention, thus are "dog-channel" recesses.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirtzlin et al. in view of Raguenet (U.S. Patent No. 6,091,373).

Claim 6:

Hirtzlin et al. teaches the waveguide comprising probes mounted on well-known generic dielectric substrates (13, 14 – col. 3, lines 28-31) but is silent where the well-known generic substrates comprise specific dielectric materials selected from a group such a quartz, plastic, or glass.

Raguenet (Fig. 1) shows a similar waveguide comprising probes mounted on specific well-known art-recognized equivalent dielectric substrates such as quartz filled polymide film (29, 33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the well-known generic dielectric substrate disclosed by Hirtzlin et al. with the well-known art-recognized equivalent substrate comprising specific dielectric materials such as quartz filled polymide film disclosed by Raguenet. Such a modification would have been a mere substitution of well-known art-recognized equivalent dielectric substrates in a waveguide thus suggesting the obviousness of the modification.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirtzlin et al. and Chen, as applied to claim 9 above, and further in view of Suzuki et al. (U.S. Patent No. 6,043,789).

Claim 10:

Hirtzlin et al. and Chen teach the circular waveguide comprising first and second probes each on a respective substrate but is silent where a first and second dog-channel is proximate the first and second probes respectively.

Suzuki et al. (Fig. 3) shows a similar circular waveguide comprising probes (8, 9) mounted on a substrate (2), further comprising channels (3e, 3f) proximate the probes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the probe disclosed by Hirtzlin et al. and Chen with the channeled probe disclosed by Suzuki et al. Such a modification would have the advantageous benefit of providing an escape recess to avoid contact with the probe patterns (Suzuki et al. – col. 5, lines 10-12), thus avoiding any shorting or interference of the signal with the waveguide wall thus suggesting the obviousness of the modification.

It is the position of the Examiner that the recesses of Suzuki et al. are identical or nearly identical to that of the current invention and are functionally equivalent to that of the current invention, thus are "dog-channel" recesses.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirtzlin et al. and Chen, as applied to claim 9 above, and further in view of Raguenet (U.S. Patent No. 6,091,373).

Claim 13:

Hirtzlin et al. and Chen teach the waveguide comprising probes mounted on well-known generic dielectric substrates (13, 14 – col. 3, lines 28-31) but is silent where the well-known generic substrates comprise specific dielectric materials selected from a group such a quartz, plastic, or glass.

Raguenet (Fig. 1) shows a similar waveguide comprising probes mounted on specific well-known art-recognized equivalent dielectric substrates such as quartz filled polymide film (29, 33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the well-known generic dielectric substrate disclosed by Hirtzlin et al. and Chen with the well-known art-recognized equivalent substrate comprising specific dielectric materials such as quartz filled polymide film disclosed by Raguenet. Such a modification would have been a mere substitution of well-known art-recognized equivalent dielectric substrates in a waveguide thus suggesting the obviousness of the modification.

Allowable Subject Matter

Claims 3, 5, 7, 8, 11, 14, 15, 16, 19, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dean O Takaoka whose telephone number is (703) 305-6242. The examiner can normally be reached on 8:30a - 5:00p Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

BENNY T. LEE
PRIMARY EXAMINER
ART UNIT 2817

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June 17, 2003